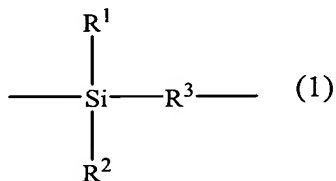


IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A chemical mechanical planarization stopper film present on the surface of a substrate, ~~comprising:~~ consisting of at least one polycarbosilane polymer consisting of structural units of the following formula (1),



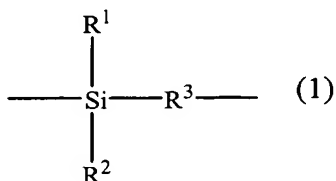
wherein R¹ and R² independently represent a hydrogen atom, an alkyl group having 1-30 carbon atoms that may have a substituent, an alkenyl group having 1-30 carbon atoms that may have a substituent, an alkynyl group having 1-30 carbon atoms that may have a substituent, or an aromatic group that may have a substituent and R³ represents -C≡C-, -CH₂- that may have a substituent linked with at least one -C≡C- group, an alkylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkenylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkynylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, or a divalent aromatic group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group.

~~an organosilicon polymer.~~

Claim 2 (Canceled).

Claim 3 (Canceled).

Claim 4 (Withdrawn, Currently Amended): A chemical mechanical planarization stopper coating solution, ~~comprising:~~ consisting of at least one polycarbosilane polymer consisting of structural units of the following formula (1),

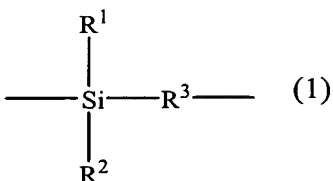


wherein R¹ and R² independently represent a hydrogen atom, an alkyl group having 1-30 carbon atoms that may have a substituent, an alkenyl group having 1-30 carbon atoms that may have a substituent, an alkynyl group having 1-30 carbon atoms that may have a substituent, or an aromatic group that may have a substituent and R³ represents -C≡C-, -CH₂- that may have a substituent linked with at least one -C≡C- group, an alkylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkenylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkynylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, or a divalent aromatic group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group.

~~a polycarbosilane and an organic solvent.~~

Claim 5 (Withdrawn, Currently Amended): A method for producing a stopper for chemical mechanical planarization, comprising:

applying a coating solution comprising (A) a polycarbosilane polymer consisting of structural units of the following formula (1),

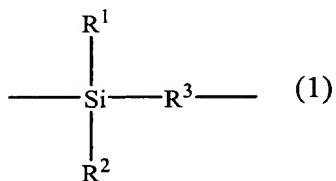


wherein R¹ and R² independently represent a hydrogen atom, an alkyl group having 1-30 carbon atoms that may have a substituent, an alkenyl group having 1-30 carbon atoms that may have a substituent, an alkynyl group having 1-30 carbon atoms that may have a substituent, or an aromatic group that may have a substituent and R³ represents -C≡C-, -CH₂- that may have a substituent linked with at least one -C≡C- group, an alkylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkenylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkynylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, or a divalent aromatic group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group and (B) an organic solvent to a substrate, and

heating the coating.

Claim 6 (Withdrawn, Currently Amended): A chemical mechanical planarization method for removing a metallic film formed on an insulating film using a polishing solution characterized by providing a stopper for chemical mechanical planarization ~~comprising~~ consisting of a polycarbosilane polymer between the insulating film and metal film;

wherein the polycarbosilane polymer consists of structural units of the following formula (1),



wherein R¹ and R² independently represent a hydrogen atom, an alkyl group having 1-30 carbon atoms that may have a substituent, an alkenyl group having 1-30 carbon atoms that may have a substituent, an alkynyl group having 1-30 carbon atoms that may have a

substituent, or an aromatic group that may have a substituent and R³ represents -C≡C-, -CH₂- that may have a substituent linked with at least one -C≡C- group, an alkylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkenylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkynylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C-group, or a divalent aromatic group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group.

Claim 7 (Withdrawn): The chemical mechanical planarization method according to claim 6, wherein the metallic film comprises a first metal film of a barrier metal and a second metal film of copper, an alloy containing copper as a main component, or a copper compound.

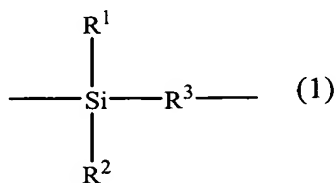
Claim 8 (Withdrawn, Currently Amended): A chemical mechanical planarization method comprising

forming a layer having an opening on a semiconductor region, the layer comprising an insulating film formed on the semiconductor region and a stopper for chemical mechanical planarization formed on insulating film,

depositing a first metallic film of a barrier metal and a second metallic film of copper, an alloy containing copper as a main component, or a copper compound in the stopper for chemical mechanical planarization and the opening to fill the opening with the deposited metal films, and

removing the second metallic film on the stopper for chemical mechanical planarization using a chemical mechanical planarization solution;

wherein the stopper consists of a polycarbosilane polymer that consists of structural units of the following formula (1),



wherein R¹ and R² independently represent a hydrogen atom, an alkyl group having 1-30 carbon atoms that may have a substituent, an alkenyl group having 1-30 carbon atoms that may have a substituent, an alkynyl group having 1-30 carbon atoms that may have a substituent, or an aromatic group that may have a substituent and R³ represents -C≡C-, -CH₂- that may have a substituent linked with at least one -C≡C- group, an alkylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkenylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, an alkynylene group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group, or a divalent aromatic group having 2-30 carbon atoms that may have a substituent linked with at least one -C≡C- group.

Claim 9 (Previously Presented): A two-layer film present on the surface of a substrate, comprising:

an insulating film directly in contact with the substrate, and
the chemical mechanical planarization stopper film according to claim 1.

Claim 10 (Previously Presented): The chemical mechanical planarization stopper film according to claim 1, having a thickness in the dried state of from 0.02 to 1.5 micron.

Claim 11 (Previously Presented): A substrate having a chemical mechanical planarization stopper film according to claim 1, present on a surface thereof, having a thickness of from 0.04 to 3 micron.

Claim 12 (Previously Presented): The chemical mechanical planarization stopper film according to claim 1, wherein the substrate is a wafer.

Claim 13 (Previously Presented): The chemical mechanical planarization stopper film according to claim 12, wherein the substrate is at least one selected from the group consisting of silicon, an SiO₂ wafer, an SiN wafer, an SiC wafer, an SiCO wafer, an SiCN wafer, and SiCON.

Claim 14 (Currently Amended): The chemical mechanical planarization stopper film according to claim 1, wherein the organosilicon polymer ~~comprises~~ consists of polymerized units of (phenylsilylene-ethynylene-1,3-phenylene-ethynylene).

Claim 15 (Canceled).

Claim 16 (Previously Presented): The two-layer film according to claim 9, wherein the insulating film comprises at least one selected from the group consisting of a polysiloxane film, a polysilsequioxane film, a CVD-SiO₂ film, and a CVD-carbon doped SiO₂ film.